



US009409180B2

(12) **United States Patent**
Ali

(10) **Patent No.:** **US 9,409,180 B2**
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **COMPOSTABLE WASTE PROCESSING APPARATUS**

(71) Applicant: **UMM AL-QURA UNIVERSITY,**
Makkah (SA)

(72) Inventor: **Dhuha Hamed Nawab Ali,** Makkah
(SA)

(73) Assignee: **UMM AL-QURA UNIVERSITY,**
Makkah (SA)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 108 days.

3,934,999 A 1/1976 Meier
4,645,594 A * 2/1987 Lingo, Sr. C02F 1/28
210/170.01
5,242,122 A * 9/1993 Bogen B02C 17/16
241/171
5,842,652 A * 12/1998 Warsing B65F 1/0033
241/101.741
8,025,246 B1 * 9/2011 Brown A47G 29/12
241/100
2005/0036925 A1 * 2/2005 Butler A61L 11/00
422/309
2011/0101137 A1 5/2011 Langston
2013/0037639 A1 * 2/2013 Chen B02C 23/18
241/47
2013/0075503 A1 * 3/2013 Chen B02C 18/10
241/17

FOREIGN PATENT DOCUMENTS

(21) Appl. No.: **14/181,296**

ES 2214944 A1 * 9/2004

(22) Filed: **Feb. 14, 2014**

OTHER PUBLICATIONS

(65) **Prior Publication Data**

US 2015/0231637 A1 Aug. 20, 2015

English Translation of ES2214944A1 is Attached as "ES2214944_English_Translation.Pdf".*
Composting Starter Kit, Meijer website.

(51) **Int. Cl.**

B02C 18/24 (2006.01)

B02C 18/00 (2006.01)

B02C 18/22 (2006.01)

B02C 4/42 (2006.01)

* cited by examiner

(52) **U.S. Cl.**

CPC **B02C 18/0084** (2013.01); **B02C 4/42**
(2013.01); **B02C 18/2216** (2013.01); **B02C**
18/24 (2013.01)

Primary Examiner — Shelley Self

Assistant Examiner — Peter Iannuzzi

(74) *Attorney, Agent, or Firm* — Richard C. Litman

(58) **Field of Classification Search**

CPC B02C 18/0007; B02C 23/08; B02C 25/00;
B02C 18/0084; B02C 18/24; B02C 18/2216;
B02C 4/42

USPC 241/17, 65

See application file for complete search history.

(57) **ABSTRACT**

The compostable waste processing apparatus includes a pulverizing device and a shredding device in separate compartments within a housing. The pulverizing device and the shredding device may be driven by at least one electronic motor. The electronic motor may be powered by one or more batteries that are charged by a photovoltaic panel of the housing. The compostable waste processing apparatus has a simple and efficient structure to facilitate use by a wide range of end-users, including households.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,584,262 A 2/1952 De Lamater, Sr.
3,850,364 A 11/1974 Robbins

8 Claims, 5 Drawing Sheets

